

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number
WO 2005/042000 A1

(51) International Patent Classification⁷: **A61K 38/00**

(21) International Application Number:
PCT/US2004/035165

(22) International Filing Date: 22 October 2004 (22.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/513,851 23 October 2003 (23.10.2003) US
60/515,397 28 October 2003 (28.10.2003) US
60/553,688 16 March 2004 (16.03.2004) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: NEUROPROTECTIVE EFFECTS OF GLY-PRO-GLU FOLLOWING INTRAVENOUS INFUSION

(57) Abstract: Gly-Pro-Glu (GPE) is rapidly metabolized in vivo. We found that GPE infusion elicits potent and consistent neu-
roprotection in all brain regions examined, and in certain embodiments, the effects were greater than those of a bolus injection
followed by infusion ("loading dose/infusion"). GPE reduced apoptosis in the hippocampus and inhibited microglial proliferation
and prevented the injury-induced loss of astrocytes and improved long-term somatofunction. GPE after infusion showed a broad
effective dose range (0.3-30mg/kg/h) and had a surprisingly extended window of treatment efficacy, permitting its use from 1 to at
least as late as 24 h after neural injury. We also found that neuroprotective effects of acute GPE administration were prolonged and
therefore capable of being used effectively to treat a variety of neurodegenerative conditions, even when administered after a neural
injury. Thus, GPE can be an effective neuroprotective agent used either alone or co-administered along with other neuroprotective
agents, antiinflammatory agents or peptidase or protease inhibitors. Compositions of GPE and protease and/or peptidase inhibitors
are provided.



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